Troy A. Bauer
Pipeline Safety and Compliance Manager
555 W. Fifth Street, ML GT0EOC
Los Angeles, CA 90013
Phone: 909-376-7208

August 22, 2019

Mr. Dennis Lee
Program and Project Supervisor
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Mr. Lee:

The Safety and Enforcement Division ("SED") of the California Public Utilities Commission conducted a G.O. 112, Operation and Maintenance Inspection of Southern California Gas Company's ("SoCalGas") Harbor Corridor Distribution Area from April 29, 2019 to May 10, 2019. The inspection included a review of the company's written O&M procedures pursuant to G.O. 112-F, Reference Title 49, Code of Federal Regulations (CFR), Parts 191, 192 and 193

SED staff identified 2 probable violations and 8 areas of concern. Attached are SoCalGas' written responses.

Please contact Troy A. Bauer at (909) 376-7208 if you have any questions or need additional information.

Sincerely,

Troy A. Bauer

CC:
James Zhang, SED
Claudia Almengor, SED
Kan-Wai Tong, SED
Aimee Cauguiran, SED

2019 SoCalGas Harbor Corridor Distribution Area
4/29/2019 to 5/10/2019

Notice of Probable Violations

1. *Title 49 CFR §192.465 – External corrosion control: Monitoring*

****

(d) "Each operator shall take prompt remedial action to correct any deficiencies indicated by the [external corrosion control] monitoring."

The May 19, 1989, Federal Pipeline and Hazardous Materials Safety Administration's (PHMSA) Inspection Guideline and Interpretation #PI-89-006 for 192.465(d) states that, as a rule of thumb, PHMSA interprets "prompt" as having the "correction completed by the time of the next scheduled monitoring."

SED found numerous Cathodic Protection (CP) packages to be deficient for intervals exceeding SoCalGas' routine monitoring frequency defined in Gas Standard 186.0135, and as required in 49 CFR §192.465(d). Since 2016, SoCalGas has been implementing changes to address the long-term CP Down Areas while developing a proactive approach to the CP areas. SoCalGas provided "Cathodic Protection (CP) status update(s) to SED" from 3rd Quarter of 2016 through 1st Quarter of 2019. It reported a total of 231 areas that were out of tolerance at system wide for various reasons for a period of longer than a year in September 2015, and then 78 areas in March 2019 (a 66% reduction). During this inspection, SoCalGas provided information regarding an additional 28 CP Areas in Harbor Corridor where CP was down greater than one year. SED recognizes that in some instances, factors outside of SoCalGas' control may be the cause of delay in restoring deficient CP packages (i.e. environmental, permitting, moratoriums, etc.). However, SoCalGas should continue to diligently follow up and monitor these areas and maintain documentation of actions taken.

Response:

As SED noted, SoCalGas has been implementing changes to address long-term out of tolerance CP areas. One example is updating Gas Standard 186.0135 to define prompt remedial action and provide escalation and notifications for out-of-tolerance areas. SoCalGas recognizes that it still has CP areas that have been out-of-tolerance more than a year and is working diligently to bring down that number.

Corrective Action:

Since the audit, SoCalGas has brought 13 of the 28 areas into tolerance. The remediation for these areas and the dates they were brought into tolerance are shown in the table below.

Area	Date Read Out of Tolerance	Date Brought into Tolerance	Remediation Work Completed
WAT026-1	08/17/17	08/14/19	Installed Rectifier & Deep Well
WAT044-5	09/01/17	04/19/19	Replaced Service, Cleared Electrical Shorts
C0592W-4	10/30/17	07/30/19	Installed Anodes
C0582W-5	11/17/17	05/24/19	Installed Anodes
C0581W-2	11/20/17	07/24/19	Installed Anodes
WAT006-3	11/22/17	05/07/19	Installed Anodes
WAT022-5	11/27/17	06/19/19	Installed Anodes, Replaced Service
C0536W-1	01/16/18	05/14/19	Installed Anodes
WAT106-1	01/25/18	06/28/19	Installed Anodes
C0545W-1	01/31/18	06/05/19	Replaced Service
WAT077-4	03/06/18	05/20/19	Installed Anodes
C0174E-1	03/13/18	06/29/19	Installed Anodes
COM018-6	03/22/18	07/09/19	Installed Anodes

For the remaining areas, SoCalGas is actively working on remediation efforts, and has summarized the status of those efforts below. SoCalGas will continue to work diligently to address all required remediation.

Area	Date Read Out of Tolerance	Remediation Work Completed and In Progress	Status of Remediation Work in Progress
C0184E-1	04/06/17	Install Rectifier & Deep Well	This is a large area with about 38,000 feet of pipe. As a result, extensive troubleshooting was needed to verify area was short-free and identify remediation.
ELS02-3	05/01/17	Clear Electrical Shorts (Completed), Install Rectifier & Deep Well	The new rectifier installation will need electrical service. The location for electrical service was rejected by Southern California Edison in early August due to the distance from the nearest power source with a transformer. Accordingly, SoCalGas is working expeditiously to identify a new location for the job.
WAT083-6	06/01/17	Install Rectifier & Deep Well	The new rectifier installation will need electrical service, which was initially requested from Los Angeles Department of Water & Power in June 2018. After experiencing delays in getting the electrical service, SoCalGas reached out to the California Public Utility Commission to request assistance on 6/21/19. The electrical service approval is still pending.

Area	Date Read Out of Tolerance	Remediation Work Completed and In Progress	Status of Remediation Work in Progress
C0624E-1	06/20/17	Clear Electrical Shorts (Completed), Install Rectifier & Deep Well	This is a large area with about 37,000 feet of pipe. Consequently, extensive troubleshooting was needed to find and clear shorts and identify additional remediation.
SL 43-34	10/09/17	Clear Electrical Shorts (Completed), Install Rectifier & Deep Well	The rectifier material was ordered in July. This is a large area with about 36,000 feet of pipe. Consequently, extensive troubleshooting was needed to find and clear shorts and identify additional remediation.
C1066W-6	10/17/17	Install Anodes	Waiting for permits from the City of Palos Verdes for the anode order, and as soon as those are approved, the anode installations will be expedited. In the meantime, SoCalGas is installing a second anode order in private property, which is scheduled to be completed 8/16/19.
C1066W-7	10/17/17	Install Anodes	Waiting for permits from the City of Palos Verdes Estates for the anode order, and as soon as those are approved, the anode installations will be expedited. In the meantime, SoCalGas is looking for a possible location in private property to install anodes sooner.
C1084W-1	10/26/17	Install Anodes, Clear Underground Short	Two sets of anodes were installed in 2018; however, the area remained out of tolerance. An additional anode order is in progress. Furthermore, a new underground electrical short has been identified, and an order to expose and clear the short is in progress.
C1051W-1	11/06/17	Install Anodes	One set of anodes was installed on 8/16/19, and the area is polarizing. Two additional anode orders have been generated. Traffic control plans were requested for the permits, and they are in development. . As soon as the plans are received, the permit requests will be re-submitted to Palos Verdes.
C0585W-1	11/15/17	Install Anodes	Permits have been requested from the City of Palos Verdes Estates for five anode orders. As soon as those are approved, the anode installations will be expedited. All five permits were initially requested in December 2018 or January 2019, and SoCalGas has responded to multiple requests from the city for more information, such as updated sketches and traffic control plans.

Area	Date Read Out of Tolerance	Remediation Work Completed and In Progress	Status of Remediation Work in Progress
C0587W-3	11/17/17	Install Anodes	A permit has been requested from the City of Rancho Palos Verdes for an anode order, and as soon as it is approved, the anode installation will be expedited. The permit was initially requested on 9/21/18. SoCalGas provided a revised traffic control plan to the city on 8/9/19.
C0593W-8	01/10/18	Replace Main	Due to electrical interference of a nearby third-party CP system, this CP area is scheduled to be replaced with plastic pipe. The replacement planning has been completed and the replacement is projected to start in late September.
C0501W-2	01/12/18	Install Anodes	One set of anodes was installed on 7/22/19; however, the area remained out of tolerance. An additional anode order has since been created and permits have been requested from the City of Torrance.
C0424W-1	03/02/18	Install Rectifier & Deep Well	Currently planning this rectifier and deep well. In addition, a temporary rectifier was installed at the existing location on 8/12/19, and the area is polarizing. This is a large area with about 37,000 feet of pipe. Consequently, extensive troubleshooting was needed to verify area was short-free and identify remediation.
WAT068-5	03/29/18	Install Anodes	Permits have been requested from the City of South Gate for two anode orders. As soon as those are approved, the anode installations will be expedited. Both permits have been in progress since mid-2018, and SoCalGas has responded to multiple requests from the city for more information, such as updated sketches and traffic control plan revisions.

2. *Title 49 CFR 192.455 - External corrosion control: Buried or submerged pipelines installed after July 31, 1971.*

****

(a) Except as provided in paragraphs (b), (c), and (f) of this section, each buried or submerged pipeline installed after July 31, 1971, must be protected against external corrosion, including the following:

****

(2) it must have a cathodic protection system designed to protect the pipeline in accordance with this subpart, installed and placed in operation within 1 year after completion of construction…

****

(f) This section does not apply to electrically isolated, metal alloy fittings in plastic pipelines, if:

(1) For the size fitting to be used, an operator can show by test, investigation, or experience in the area of application that adequate corrosion control is provided by the alloy composition; and

(2) The fitting is designed to prevent leakage caused by localized corrosion pitting.

SED reviewed records of unprotected steel pipe systems and found the following post-1971 pipeline repairs and/or replacements without cathodic protection installed:

The table below lists work orders that included portions of steel systems which were replaced with plastic pipe. However, anodes were not installed on the steel fittings:

WO#	WORK TYPE	ASSETREGISTRYID	DATE OF OPERATION	MATERIAL	NOMINAL SIZE
2000140217	REPL	GD.PAC.HTP.MP.DOW0031	8/22/2017	Steel	2
2000140217	REPL	GD.PAC.HTP.MP.DOW0031	8/22/2017	Steel	2
2040788862	REPL	GD.PAC.HTP.MP.WAT0034	10/2/2017	Steel	6

Response:

After reviewing the two referenced jobs, SoCalGas agrees that anodes should have been installed at these new steel fittings.

Corrective Action:

Anodes are currently being planned and will be installed for the referenced locations.

Gas Standard 186.0005 Cathodic Protection – Mixed Piping System outlines the configuration for installation of plastic within a steel system. The standard does not currently differentiate design specifications between non-cathodically protected steel and cathodically protected steel. It will be revised, and schematics will be included to add clarity on proper installation techniques of new steel in non-cathodically protected steel systems.

The Lead System Protection Specialist who reviewed these jobs has been counseled on the requirements for installing new steel fittings in existing non-cathodically protected steel systems.

In pursuit of continuous improvement, SoCalGas has been developing material and creating an enhanced training for their Lead System Protection Specialists. The Lead System Protection Specialists are the designated employees for reviewing planned sketches for cathodic protection requirements. The pilot class took place earlier this year and was given to a select group of existing Lead System Protection Specialists.

Concern and Recommendations

1. SED reviewed Work Order # 520001602784 (Leak ID 1704382) Code 3 leak repair at 1104 Eubank Ave. Wilmington. Records show that the leak was detected on 2/28/17 and repaired on 1/12/18 using "clamp." Leak repair record indicates that the Code 3 leak was on the service, but repair comments notes that leak was at the bottom of steel main. The record also identified the material as "Steel-Coated w/CP." Review of SoCalGas GIS showed that the 3-inch steel main was unprotected, contrary to the information provided in the leak repair record. During the audit, SoCalGas personnel stated that leak repair personnel are not qualified to take P/S reads, which could have caused the personnel to assume that the main was protected. Leak repair records are essential data source used to identify threats as part of the distribution integrity management program. As such, SoCalGas should ensure that information gathered in the field is accurate and complete.

Response:

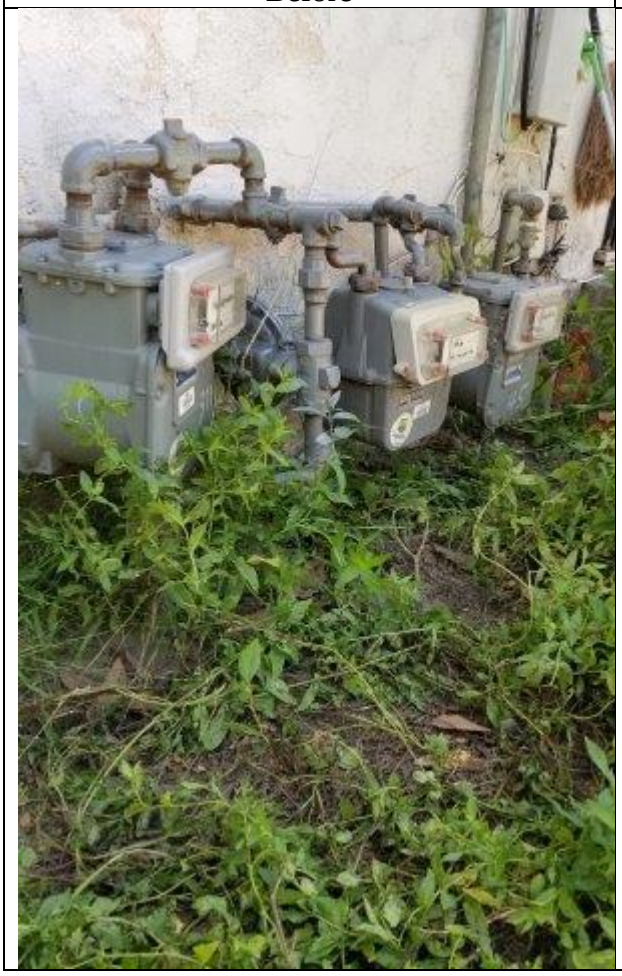
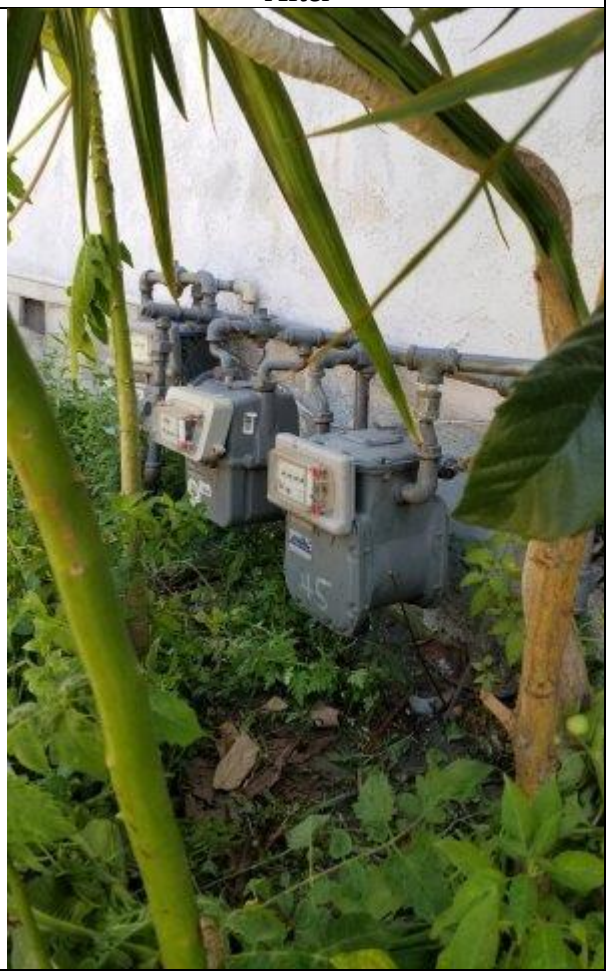
SoCalGas has revised the leak order SAP# 52-1602784. It now states, "Steel-bare w/o CP."

2. On 5/9/2019, during a leak survey on Pope Ave in Lynwood, SoCalGas and SED observed a number of meters which were found to be slanted, and a number of manifolds which were not attached to a wall of a house. According to 49 CFR §192.357, meters should be installed to minimize anticipated stresses upon the connecting piping and the meter. Please provide a status update on the corrective action and completion of work order.

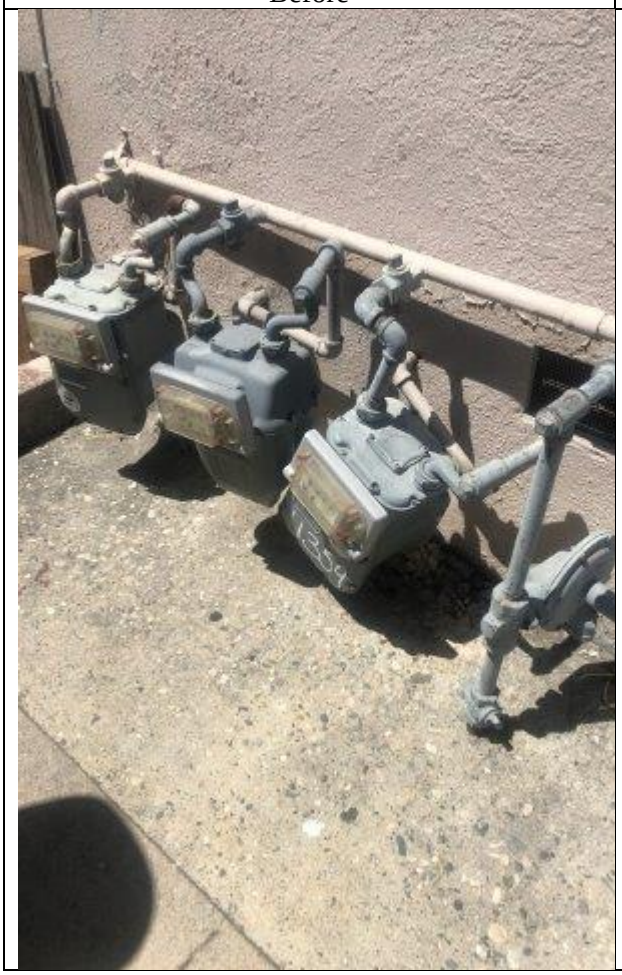
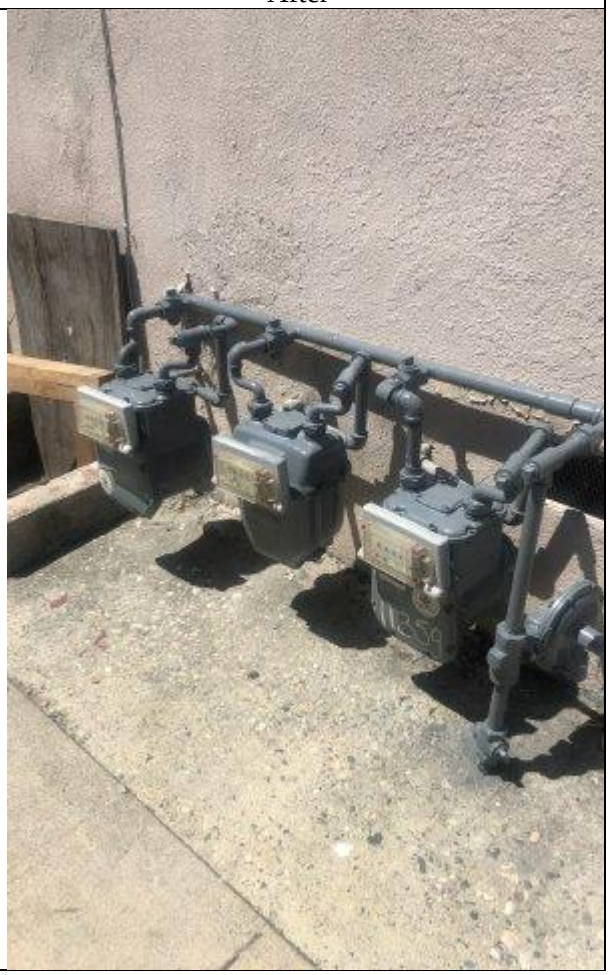
Response:

SoCalGas has completed the repairs. Attached are before and after pictures for the three identified installations below.

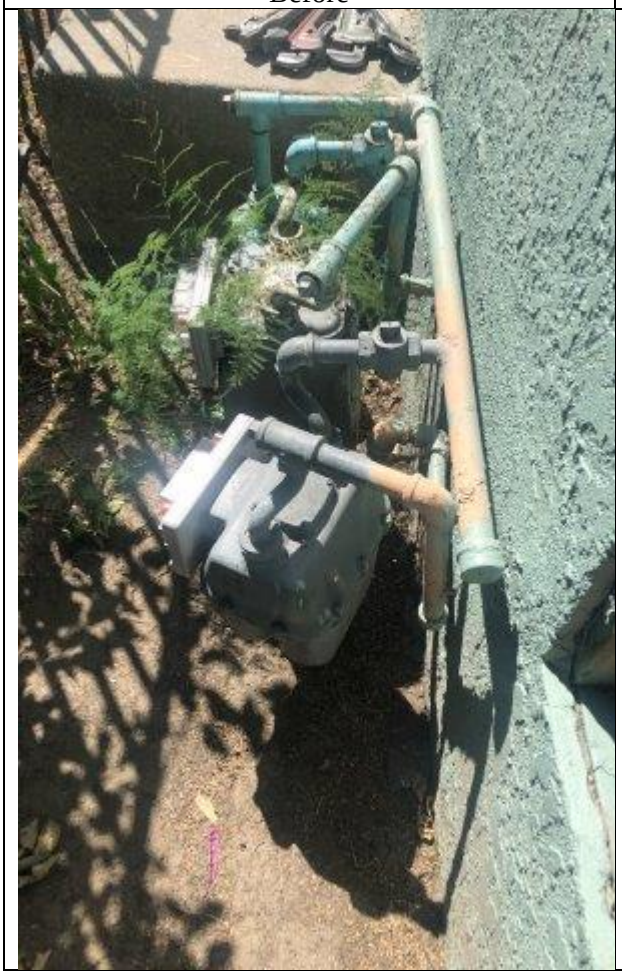
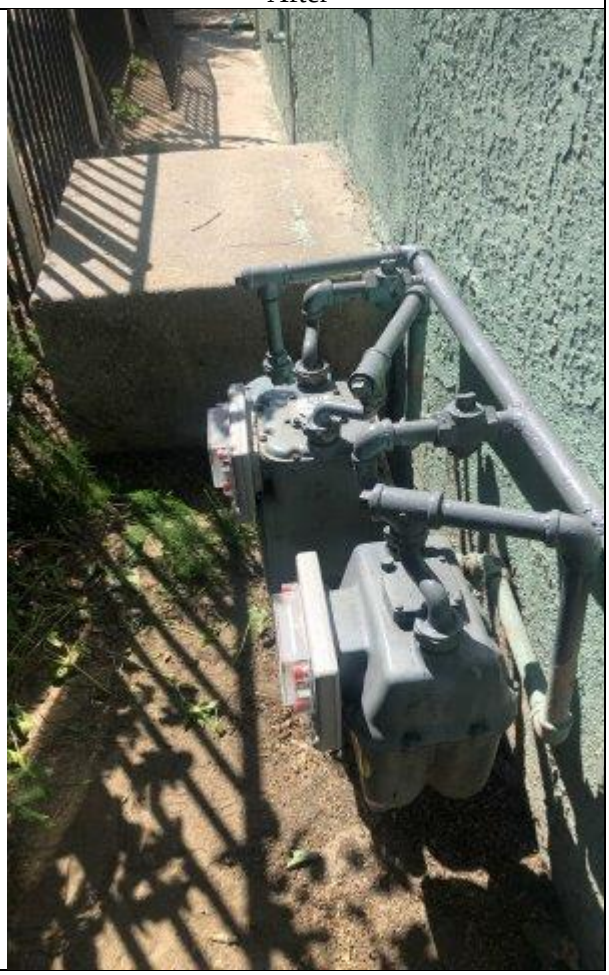
a. 52-2129040 – 5145 Martin Luther King Blvd. Lynwood

Before	After
	

b. 52-2129005 – 11316 Pope Ave. Lynwood

Before	After
	

c. 52-2129021 – 11359 Pope Ave. Lynwood

Before	After
	

3. SoCalGas and SED observed the following cathodic potential readings during its field inspection:
    a. LA1515-1-1: mag anode area (-850mv criteria)
        i. 131 N Harbor Ave (Point C), -800 mV
        ii. ETS, Harbor View & Santa Cruz St (Point E), -816 mV
        iii. 1459 Summerland Avenue, meter (Point D), -810 mV
    b. 10%er TLA1359-1-1 (-850mV criteria)
        i. Eubank Ave & Denni St, casing cover paved over, -626mV
        ii. 575 Hamilton, -444mV
    c. SL 37-21B mag anode area (-850mV criteria), interference bond along Pacific Coast Hwy,
        i. Bimonthly read location (Point F), -426mV
        ii. Diode location (randomly selected), -449mV
    d. TTOR17-15 (10%er, -850mV criteria)
        i. 1907 Plaza Del Amo, -774mV
    e. TOR 11-4 (-850mV criteria)
        i. 2941 El Dorado (Point A), -791mV
        ii. 2934 Opal St (Point F), -813mV
    f. C0593W-8 (Point G) bonded together with Chevron, 0.67 mV -> 0.67 mA, 0.9 mA was initial, (-850mv criteria)
        i. Point F, -534mV
    g. C0593W-6 interference bond (Point H), (-850mV criteria)
        i. South wire, -677mV
        ii. North wire, -478mV
        iii. Point D, -682mV
    h. MB05-11 (-850mV criteria)
        i. 1506 21St (Point A), -470 mV

Please provide SED an update on any corrective action(s) taken by SoCalGas and include documentation of the corrective action(s).

Response:

The table below has the current status and actions taken to address the above readings.

Area	Read Point	Read During Audit (mV)	Date Point Read Up	New Read (mV)	Remediation
LA1515-1-1	131 N Harbor Ave (Point C)	-800	5/14/19	-1,029	Area was found in tolerance when employee initiated troubleshooting. All read points and a random read point were in tolerance. We suspect that there was a temporary short, such as something leaning against a meter during the audit reads.
	ETS, Harbor View & Santa Cruz St (Point E)	-816	5/14/19	-1,424	
	1459 Summerland Avenue, meter (Point D)	-810	5/13/19	-1,025	

Area	Read Point	Read During Audit (mV)	Date Point Read Up	New Read (mV)	Remediation
TLA1359-1-1	Eubank Ave & Denni St, casing cover paved over	-626	6/26/19	-1,672	Repaired anode connection wires, and area is now in tolerance. Note: The service at 575 Hamilton is not part of this CP area and is not under CP.
	575 Hamilton	-444	N/A	N/A	
SL 37-21B	Bimonthly read location (Point F)	-426	N/A	N/A	Area remains out of tolerance. Area is being troubleshot to identify a remediation.
	Diode location (randomly selected)	-449	N/A	N/A	
TTOR17-15	1907 Plaza Del Amo	-774	N/A	N/A	Area remains out of tolerance. Anodes orders have been generated. The City of Torrance requires traffic control plans for a permit, which are in development.
TOR 11-4	2941 El Dorado (Point A)	-791	N/A	N/A	Area remains out of tolerance. Two anode orders have been planned.
	2934 Opal St (Point F)	-813	N/A	N/A	
C0593W-8	Point F	-534	N/A	N/A	Area remains out of tolerance. Due to electrical interference of a nearby third-party CP system, this CP area is scheduled to be replaced with plastic pipe. The replacement is estimated to start in late September.
C0593W-6	South wire	-677	N/A	N/A	Area remains out of tolerance. Area is being troubleshot to identify a remediation.
	North wire	-478	N/A	N/A	
	Point D	-682	N/A	N/A	
MB05-11	1506 21St (Point A)	-470	7/16/19	-971	Installed insulated union to address an above ground short, and area is now in tolerance.

4. During field inspection on 5/09/2019, SoCalGas and SED discovered a disconnection of the interference bond at Point C of the CP Area C0658E-1 in Compton district. SoCalGas representatives stated that it will come back to fix it with the correct tools. Please provide SED a status update on the corrective action(s) taken by SoCalGas and completion of work order.

Response:

A Lead System Protection Specialist replaced the broken shunt at the interference bond on 6/7/19 and read it within tolerance.

5. a. On May 2, 2019, SED inspected the pipe under one end of Redondo Beach Pier and found the pipe to be held with metal straps. However, those straps were observed to not have insulation separating them from touching the pipe compared to the other end of the pier where the pipe was painted green, indicating epoxy coating, and had insulation between the pipe and its metal supports. This span was also under the pier, over a body of water.

   b. On May 9, 2019, SED inspected the bridge and span at Slauson Ave Bridge in Maywood. SED noticed missing insulation at one of the supports, and missing pipe wrap where the pipe touched the concrete.

- SED believes that both situations can lead to atmospheric corrosion if not remediated. Please provide SED a status update on the corrective action(s) taken by SoCalGas and completion of work order.

Response:

5a: Redondo Beach Pier- SAP# 520001991002 was created to address the issues at the Pier. This is a hazardous work environment. All work is below the pier, and above surging tides. Currently there is not a safe catwalk to access our facilities. SoCalGas is currently in discussions with the City of Redondo Beach and its specialized pier contractor to build a temporary scaffolding structure for SoCalGas to access its facilities. We can then address the missing insulation on the straps supporting our gas main. SoCalGas has proposed an August or September time frame for making the repairs because the tides will be at their lowest levels in those months. This issue was addressed at a meeting with the City of Redondo Beach Pier Management and SoCalGas on 7/30/19. The City of Redondo Beach is expected to respond to SoCalGas' proposal by 8/23/19.

5b: Slauson bridge- An Abnormal Operating Condition (AOC) was found in 2018 on a Bridge and Span inspection at this location. Order 520001935186 was created. The span is inspected every month and we are currently waiting on permits from the Army Corp of Engineers to perform the work. We anticipate having the permits by November 1, 2019. We will then be able to address within 2 weeks the missing insulation on the support and the missing pipe wrap.

6. A. On 5/8/2019, SED observed SoCalGas field crew conducting maintenance of Regulator Station 2042 in Compton district. During the maintenance, regulator 0100 did not lock up. SoCalGas crew repaired and replaced parts to reach lock up. SED reviewed the record of this maintenance work order after its field inspection and noticed that the record did not reflect the "as-found" condition of the 0100 regulator to state "51 – NO LOCK UP." SED believes that maintenance records are essential data sources for the distribution integrity management program. Thus, SoCalGas should accurately record the "as found" conditions to reflect actual field conditions observed.

Response:

SoCalGas requires that employees capture "As-Found" conditions with specific codes to indicate the conditions found. In the Company Form Instructions for District Regulator Station – Inspection, CM-5110, employees are instructed to "check any as found applicable condition codes associated to the District Regulator Station."

Unfortunately, the technician who performed the referenced inspection neglected to include the as-found condition on this occasion. A training session was conducted on 7/29/19 where the technicians were reminded to include the as-found condition as part of their inspection of equipment.

7. A. On 5/9/2019, SED while observing SoCalGas perform a leak survey along Pope Ave starting from Martin Luther King Jr. Blvd, noticed an address where a code 3 leak was previously identified. During the leak survey, the leak was found to have migrated into the residence and was categorized as a code 1 leak. Please provide SED with records of prior odor calls/complaint (if any), and leak repair records associated with the leak.

   B. Although a repair of a classified leak may be expedited for a variety of reasons, the original classification of the leak shall not be changed." SED believes that this restriction does not reveal the actual condition of the gas leaks during the subsequent reevaluations, and none of the current SoCalGas's work management system can track the escalated levels of the leak condition and corresponding repair activities. Even though the Gas Standard allows the crew to expedite the repairs, there is currently no auditable process to verify that the repairs were completed within the timeframes corresponding to the latest Code levels (i.e. Code 3 to Code 2). Therefore, SoCalGas should revise its Gas Standard to require documenting field observations during subsequent reevaluations, including recording any changes (i.e. code levels) identified that may expedite the need for remedial actions.

Response:

A. Leak Repair Order number was SAP# 52-1765886. The code 3 leak was the only leak at this location and there were no odor or customer complaints associated with this leak.

B. SoCalGas currently codes leaks based on indications found upon discovery. Per Gas Standard 184.0245, Section 4.6.3.6, when performing leak investigation on underground leakage, the excavation is made at the "point of highest leak indication" and action is taken to properly code the leak. SoCalGas currently does not downgrade leaks in the interest of public safety and so that it continues to mitigate pending leaks. When a re-evaluate is performed, indications will more than likely be less if there has been venting or a temporary repair.
If indications are higher when the re-evaluation is performed, and the indications classify the leak as a code 1 or 2 leak, the repair will be expedited. Gas Standard 223.0125, Section 2.10 provides specific requirements for when gas indications change during re-evaluation to ensure consistency among the field employees and supervisors throughout the company. Enhancements are currently being developed to automatically escalate the mitigation schedule of re-evaluated when a change in conditions is documented in CLICK and SAP.

8. CPA C0597-W Z9 had been under a 100mV shift criterion set established in 2004 at the time remediation activities took place between 2015 and 2017. During this time, SoCalGas personnel conducted CP monitoring and surveillance by taking monthly reads while attempting to restore the CP levels in the area. At some point in 2016, the reads began producing satisfactory values. However, the SoCalGas personnel failed to recognize the area was no longer deficient under the 100-mV shift criterion. CP remediation log comments indicate the SoCalGas personnel believed the area was under the -850mV shift and continued remediation activities. Eventually, this led to the establishment of another 100 mV shift criterion in 2017 and SoCalGas reconsidering the area as within compliance under the 2017 criterion set.

   After SED relayed this information to SoCalGas, SoCalGas representatives agreed with SED's assessment that the employee failed to recognize the criterion utilized in the CPA. SoCalGas representatives stated they would address this issue with their CP staff to prevent a reoccurrence in the future. SoCalGas representatives later provided SED with OQs for the SPS and LSPS personnel involved. Upon review, the Operator Qualifications were found to be active and valid between 2015 to 2017.

Response:

When this area was found out of tolerance, the employee performing troubleshooting initially looked into whether it could be qualified under 850mV criteria with the installation of new anodes. When the area did not meet the 850mV criteria, the employee then had to re-qualify the area under 100mV criteria since the new anodes increased the current output of the system by more than 20%. The 100mV re-qualification request was approved by the Pipeline Integrity department on 11/28/17. The 100mV re-qualification was then completed on 12/26/17 after new read point locations had been established with updated read tolerances.